CBCS SCHEME

BBT358A

USN | | | | | | | | | | |

Question Paper Version : A

Third Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024

Biolab Management and Risk Assessment

Time: 1 hr.] [Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

---

1. What is the primary purpose of a biological laboratory management system?
   a) Conducting experiments
   b) Ensuring safety and compliance
   c) Budget planning
   d) Staff recruitment

2. Which of the following is a key consideration for maintaining of a safe laboratory environment?
   a) Open containers
   b) Inadequate ventilation
   c) Proper waste disposal
   d) Ignoring safety protocols

3. Which of the following is a primary component of laboratory waste management?
   a) Disposing all waste in regular trash bins
   b) Recycling all materials
   c) Segregating and labelling waste
   d) Ignoring waste management protocols

4. Why is it essential to keep an inventory of biological material in a laboratory?
   a) Decorating the laboratory
   b) Facilitating experiments
   c) Increasing work load
   d) Ignoring safety concerns

5. What does BSL stands for the context of Laboratory safety?
   a) Biological Safety Level
   b) Bio safety Level
   c) Laboratory security Level
   d) Biohazard safety Level

6. BSL – 2 laboratories are designed for handling. . . .
   a) Open bench work
   b) Moderate risk agents
   c) High risk agents
   d) No risk agents

7. In BSL – 4 laboratories, the highest level of contaminants is required for working with?
   a) Common bacteria
   b) Viruses that cause mild diseases
   c) Agents with a high risk of aerosol transmission and for which there is no vaccine or treatment
   d) Non pathogenic fungi

8. BSL-3 laboratories typically requires?
   a) Standard laboratory attire b) face masks only
   c) Special ventilation and controlled access d) No Specific safety measures

9. What is the recommended method for disposing of biological waste contaminated with potentially infections materials?
   a) Recycling b) Land filling c) Incineration d) Compositing

10. Which regulatory body provides guidelines for the proper disposal of biohazards waste in laboratories?
   a) FDA b) OSHA (Occupation Safety and Health Administration)
   c) EPA d) CDC (Centers for Disease Control and Prevention)

11. How does a laboratory manager contribute to the risk assessment process?
   a) By conducting experiments
   b) By providing snacks for researchers
   c) By implementing safety protocols and overseeing the risk assessment
   d) By ignoring potential hazards

12. Which of the following is a sustainable practice for reducing waste generation in a biological laboratory?
   a) single use disposable laboratory b) excessive use of plastic container
   c) Implementing recycling programms d) Ignoring waste management protocols

13. What is the primary purpose of conducting a risk assessment in a biological laboratory?
   a) Facilitating experiments
   b) Indentifying potential hazards and minimizing risk
   c) Increasing work load for researchers
   d) Promoting laboratory aesthetics

14. In a risk assessment what does the term "biosafety level" refers to?
   a) The cleanliness b) The potential risk of biological agents
   c) The number of personnel in the lab d) The colour coding of Lab equipments

15. HACCP stands for_____
   a) Hazard Analysis and Critical Control Process
   b) Hazard analysis and Critical Control Point
   c) Hazard Access and Critical Control Point
   d) Hazard Analysis and Critical Control Protocol

16. Which of the following is an example of administrative controls in a biological laboratory?
   a) Biological Safety Cabinets (BSCs) b) Lab Coats and Gloves
   c) Emergency response Plan d) Autoclave

17. How should liquid biohazards waste be treated before disposal?
a) Pour down the sink with running water
b) Autoclave or chemical treatment
c) Place in regular trash bins
d) Evaporate in the open air

18. What is the hierarchy of controls, administrative controls, Personal Protective Equipment (PPE)
a) PPE, Engineering controls, substitution, elimination, administrative controls
b) Administrative controls, elimination, PPE substitution and engineering controls
c) Elimination, substitution, engineering controls, administrative control and PPE
d) Substitution, elimination, PPE, administrative controls and engineering controls

19. Why is communication important in the context of risk assessment in a biological laboratory?
a) To create confusion among researchers
b) To promote a silent work environment
c) To Discourage collaboration
d) To share information about potential hazards and safety measures

20. Which type of waste is suitable for an aerobic digestion
a) Plastic b) Paper c) Organic waste d) Glass

21. Which bio-safety level is commonly used for clinical diagnostic work and research on well characterized agents
a) BSL-2 b) BSL-1 c) BSL-3 d) BSL-4

22. BSL-1 laboratories typically requires
a) Speed ventilation and control access
b) Handling agents with minimum risk to the environment and personnel
c) Research on deadly pathogens
d) None of the above

23. Which of the following is a sustainable practice for organic waste disposal?
a) Incineration b) Land filling c) compositing d) Recycling

24. What is the first step in a waste management hierarchy?
a) Recycling b) Landfill disposal c) Incineration d) Waste reduction

25. Which of the following is a key consideration in biosafety assessment for GMO's?
a) Speed of research b) Potential environmental impact
c) Research funding d) Technical complexity

26. Which of the following is a physical containment measures in biosafety practices?
a) Administrative control b) Personal Protective Equipment (PPF)
c) Safety training d) Biological safety cabinets

27. Which organization provides guidelines for biosafety practice worldwide?
a) United Nations (U.N) b) WHO
c) International Monetary Fund (IMF) d) World Trade Organization (W.T.O)

28. What is the primary Focus of a risk assessment in biosafety?
    a) Economic Impact
    b) Environmental Impact
    c) Public relations
    d) Hazard Identification and Mitigation

29. In environmental Risk assessment, what does the term receptor refers to?
    a) Entity causing the risk
    b) Substances being assessed
    c) The organism
    d) System at risk

30. Which factor is considered during exposure assessment in risk assessment?
    a) Toxicity of the substance
    b) Frequency of exposure
    c) Biological diversity
    d) Regulatory compliance

31. What does the acronym "ERA" stands for in the context of environmental risk?
    a) Ecological risk appraisal
    b) Environmental Regulatory Analysis
    c) Ecosystem resilience Assessment
    d) Environmental risk Assessment

32. What is the role of stakeholders in the environmental risk assessment process?
    a) Providing financial support
    b) Conducting laboratory experiments
    c) Offering expertise and Input
    d) Approving regulatory documents

33. What is primary objectives of food and feed safety assessment?
    a) Maximizing agricultural productivity
    b) Ensuring economic profitability
    c) Safeguarding human and animal health
    d) Providing international trade

34. What is the role of allergen labelling in food safety assessment?
    a) Enhancing product aesthetics
    b) Improving nutritional content
    c) Alerting consumers to potential allergens in the product
    d) Meeting advertising standards

35. What is the key principle behind the precautionary approach in food safety assessment?
    a) Prioritizing economic interests
    b) Acting only when risks are proven
    c) Emphasizing rapid decision making in the absence of scientific certainity
    d) Ignoring potential long term consequences.

36. In food safety what is the purpose of establishing the familiarity of the food product?
    a) Determining its popularity in the market
    b) Assessing its cultural significance
    c) Streamlining the regulatory process for well known and traditionally consumed foods

37. What does the concept of substantial equivalence refers as the context of food safety assessment?
a) Identical composition of two good products
b) The acceptance of minor differences in composition as long as they do not affect safety
c) The exclusion of genetically modified organisms from assessment
d) The complete absence of any difference between food products

38. Which of the following is a chemical hazard that may be present in food and feed?
a) Bacterial contamination
b) Physical contamination
c) Pesticide residue
d) Allergenic proteins

39. In the context of feed safety. What is the significance of mycotoxins?
a) Enhancing flavor
b) Serving as natural preservative
c) Possessing toxic properties harmful to animals
d) Promoting nutrient obsorptions

40. When assessing the substantial equivalence of a genetically modified crops which of the following is a key consideration?
a) The colour of the crop
b) Method of cultivation
c) The presence of newly introduced traits and their potential impact
d) The size of the harvest

41. What does the term 'OMICS' refers to in the context of risk assessment?
a) Traditional farming practices
b) Comprehensive analysis of biological molecules
c) Historical data on food consumption
d) Regulations on product labelling

42. Which 'OMICS' approach involves the study of all the proteins produced by an organisms under specific conditions.
a) Genomics
b) Metabolamics
c) Proteomics
d) Transcriptomics

43. What is the main advantages of using OMIC technologies in risk assessment?
a) Reduced complexity in data analysis
b) Limited scope in identifying potential hazards
c) Enhanced sensitivity and coverage of biological responses
d) Exclusion of genetic information

44. What is the primary ethical concern related to health privacy
a) Economic impact
b) Autonomy and confidentiality
c) Technological advancement
d) Regulatory compliance

45. What is the main purpose of health information privacy policies?
a) Facilitating data sharing among healthcare providers
b) Ensuring public access to medical records
c) safeguarding the confidentiality of individuals health information
d) Promoting the commercial use of health data

46. In the context of health privacy, what does the term 'informed convent' means?
a) The right to access health information freely
b) Permission given after full disclosure of information and Risks
c) Mandatory sharing of health data for research purposes
d) Exclusion of personnal preferences in medical decision making.

47. What is the primary goals of risk characterization in the risk assessment process?
a) Identifying hazard
b) Evaluating exposure pathway
c) combining hazard and exposure information to estimate risk
d) Implementing risk management strategies

48. In Risk characterization what does the term "uncertainty' refers to?
a) The accuracy of hazard identification
b) Lack of information imprecision in the risk assessment
c) The predictability of exposure pathways
d) The seventy of the potential risk

49. What does data collection play in the development of an analysis plan?
a) It is unnecessary for risk assessment
b) It helps in defining the scope and objectives
c) It is solely for statistical analysis
d) It contributes to risk communication

50. What is the primary purpose of an analysis plan in risk assessment?
a) Conducting exposure assessment
b) Identifying potential hazards
c) Providing a road map for assessment process
d) Implementing risk management strategies.

* * * * *